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ABSTRACT

This report, the summary of a series of conferences on reading research, identifies two main theories about the nature of reading: (1) reading as translation, wherein printed symbols are translated into an approximation of oral language, so that the capabilities for understanding speech can be applied to written language, and (2) reading as an autonomous language process, wherein understanding the written word is separate from understanding spoken language. The study concludes, after considering several decades of applied research, that, when skill in word recognition is the outcome studied, code-oriented programs are more effective than language-oriented programs, especially with low socioeconomic groups and low achievers. However, when comprehension development is the criterion, there is no clear advantage to either program. The report recommends that national reading policy include both systematic code-oriented instruction, particularly in the primary grades, and carefully defined language experience instruction, which builds on the child's own writing and dictation. (HAI)

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THEORY AND PRACTICE IN BEGINNING READING INSTRUCTION

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THEORY AND PRACTICE IN BEGINNING READING INSTRUCTION

Are some ways of teaching beginning reading more effective than others, especially for children in compensatory educational programs? What does the research say? Do the research findings agree with what experts in the field say about the theory of reading? These are the questions that were addressed by the Theory and Practice in Beginning Reading Instruction Project. The project brought together in a series of conferences over 50 people active in reading research and the teaching of reading to hear formal papers and to discuss early reading instruction. The aim of the conference discussions was to clarify points of agreement and disagreement as a basis for advising educators and the public on the approaches to instruction most likely to be effective for hard-to-teach children. I attempt here to summarize the major points of view that emerged in the course of the conferences and to relate conference positions to outcomes of evaluation studies comparing various reading approaches. On the basis of these twin sources of evidence, I will draw implications for current practice in compensatory education and for new approaches to instruction that need systematic development and trial.

There is little doubt that those closely involved in questions of reading instruction--either as researchers or as practitioners--believe that what is taught, and how it is taught, matters. The intensity of discussion, over the course of decades, is enough to convince us of this. But are these advocates of one or another approach right? Is there any basis at all for deciding among programs? Or is it the case, as some people continue to claim, that it doesn't matter how reading is

taught as long as there is commitment to learning on the part of the teacher and the school, or that different children learn in such different ways that there is simply no way of choosing among competing programs on a general basis?

To respond to these questions, I shall begin by characterizing what I perceive as the two main strands of theory concerning the nature of reading and learning to read. I will then consider such empirical evidence as is available on the relative effects of programs that appear to embody these two views of reading. On the basis of this evidence, I will (a) recommend an aspect of current practice in early reading and (b) suggest the kinds of new program development that hold promise for improving other important aspects of reading instruction.

Competing Positions on the Nature of Reading

Two main strands of theory concerning the nature of reading can be identified, both in our conferences and in a perusal of research and teaching literature on reading going back as much as a century. For simplicity, we can call these the reading as translation and the reading as language positions.

Reading as Translation

One view considers reading to be essentially a process of translating printed symbols into some approximation of oral language, and then letting already developed oral language abilities take over. In this view, reading is entirely "parasitic" on speech. All that must be done in learning to read is to learn what the printed symbols "say"

(i.e., what sounds they correspond to). No other activity is unique to reading; everything else is shared with speech. Further, since the ability to comprehend speech is already present in any individual who sets out to learn to read, only word recognition needs to be taught. At most, practice in this new (visual) mode of receiving language symbols is needed.

The reading as translation view generally leads to a predominant, or even exclusive, preoccupation with mastery of the alphabetic code. It suggests that whatever else is done early in instruction, the code must be taught. From this derives the notion that instructional materials should be organized so as to highlight predictable aspects of the print-sound code. In research, the translation position is associated with a concern for word recognition processes, with the role of the alphabetic code in recognition, and with the role of fast or "automatic" word recognition in facilitating reading comprehension. People who characterize reading in terms of print-sound translation freely admit that many people learn to read--that is, master the code so that they can use it automatically--without much direct instruction. But they often express special concern for the "hard-to-teach," including children in compensatory programs. They assume that the difficulty these individuals have in becoming competent readers is primarily a difficulty in mastering the code. They look for--and are able to show--difficulties in skills prerequisite to learning the alphabetic code, such as segmenting the speech stream (Rozin & Gleitman, 1976; Liberman & Shankweiler, paper presented at the reading conference. The conference papers cited herein are listed at the end of this paper, after the reference notes.) They tend to advocate prereading

activities that teach these prerequisites, or methods of reading instruction that teach them in the course of teaching the code (see also conference papers by Rosner; Wallach & Wallach).

Reading as Language

The second strand of theory holds that reading is a separate, autonomous language process. Understanding the written word is in certain important ways different from understanding spoken language. Written language is organized differently from spoken language. It also fulfills different social functions. Although written material can be read aloud, it is not primarily intended for this use. Further, there are important differences in the ways in which speech and print are mentally processed. Because it is an autonomous language process, reading cannot be taught as if it were parasitic on speech. That is, we cannot assume that because people know how to translate print into sound (recognize words) they will be able to understand and use written language in functional ways. Instead, reading instruction must focus quite directly on the functional use of written language, preferably from the outset of instruction.

The instructional views of people who interpret reading as an autonomous language system are varied. None deny that the alphabetic code must be learned, for example, but they vary widely in their view of the amount and timing of direct instruction that should be devoted to it. All agree that reading instruction, essentially from the outset, must focus on deriving meaning from written language and on functional use of the written word. For this they are prepared to sacrifice, if

necessary, some rigor and speed in acquiring knowledge of the code. In general, people with this view of the nature of reading do not believe that learning the code is very difficult, or that not knowing it is the cause of failures in reading. But a problem in characterizing this group of reading theorists is that they agree more on what learning to is not--i.e., it isn't simply mastering the code--than on what it is.

A variety of approaches to reading instruction have been advocated by people who view reading as an autonomous language process. Probably the oldest and still most widely used is the "look-say" approach to word recognition, generally embodied in basal reading instructional programs. "Look-say" or "whole-word" teaching methods arose in the first half of this century as a reaction against the dry, dull, and not very successful methods of reading that had predominated earlier, and that focussed on oral reading and on learning the alphabetic code. (See Resnick & Resnick, 1977, for a characterization of these earlier methods and of the success rates associated with them.) The essence of the philosophy underlying basal reading approaches was that reading should, from the outset, focus on extracting meaning, rather than on "mechanics," the latter to be acquired later and with as little instruction as possible.

This basic view is shared by proponents of various "language experience" approaches to reading instruction, although these people (for example, Goodman & Goodman, conference paper) believe that for reading to become a functional communication system it is necessary for it to be rooted in the communication needs and processes of the learner. For this reason, the basic "material" of reading ought to be text

actually produced by the learners or their immediate peers. Special variants of language experience approaches have been proposed by those immersed in work with people from illiterate communities and from cultural backgrounds sharply divergent from dominant western ones--for example, Sylvia Ashton-Warner working with Maori children in New Zealand, and Paulo Freire working with illiterate adults in Brazil. In each of these cases a key observation was that to make the effort to become literate, people of any age needed to recognize that their own concerns--not only those of an outside, and perhaps oppressive, culture--could be expressed in writing.

Much the same argument is made by those who propose variants of language experience for compensatory education populations in America today. People who are concerned with these groups and who espouse the autonomous language system view of reading argue that failure to learn to read stems primarily from learners' not recognizing the relevance of school-related reading to intrinsically important events outside of school. The problem is a failure to recognize reading and writing as functional tools within their own culture, not an inability to perform the component skills such as decoding. Two prescriptions for instruction follow: for beginners, immediate and continuing focus on meaning through the medium of written materials produced (directly or through dictation) by the learners; for those in need of remedial help, a focus on the reading and discussion of intrinsically interesting material rather than on "skill building." With respect to basic research, the autonomous communication system definition of reading leads to a concern with the ways in which meaningful written langage is processed. Sentences are the minimal unit of concern, and longer texts

are increasingly studied. This is a relatively new area of study for psychology as a whole and for reading in particular, and is thus much less strongly developed than is word recognition research. (See Just & Carpenter, in press, for an up-to-date look at this field.)

The Empirical Evidence Concerning Reading Instruction

Evidence clearly favoring one instructional program over another in school settings is difficult to find. Most studies fail to show significant differences and those that do show differences are often attacked on one or another fine point of methodology. Nevertheless, a consistent pattern of findings can be detected concerning both program effects and general style of instruction. This pattern can be summarized roughly as follows: Concerning program, when skill in word recognition is the primary dependent variable, code-oriented programs tend to show up better than language-oriented programs. This is especially true for low socioeconomic groups and for low achievers in general. However, when comprehension beyond the very simplest levels is the criterion, there is no clear advantage for either code- or language-oriented programs. Concerning instructional style, direct instruction, teacher controlled use of time, and well structured curricula have a clear edge, again especially for low achieving or low SES groups. I draw these conclusions on the basis of the following evidence:

(1) Follow Through. We now have data from several cohorts of Follow Through students in a number of different kinds of programs (Stebbins, St. Pierre, Proper, Anderson, & Cerva, 1977). In none of the

evaluations are the different Follow Through programs compared with each other in a strict experimental design. Rather, each program is compared with its own control group--this group receiving whatever the "standard" program of its school district is. This means that the program to which the control group is exposed is not specified. Nevertheless, patterns can be detected in which certain programs, used in a number of different school districts and over a number of years, often show reading scores superior to their control groups and other programs rarely show such an advantage. The pattern of these findings is that the most structured of the Follow Through models--the University of Oregon's, which uses a reading program, DISTAR, written explicitly for Follow Through and other compensatory use--more regularly shows advantages over its control group than the less structured models. This pattern is strongest in first and second grades; it is present but weaker in third grade. By fourth grade, the advantage has disappeared. This summary is based on evidence which uses the Metropolitan reading test as the primary source of data. This test stresses comprehension tasks especially from about fourth grade upward. Data collected by the Oregon model sponsors on the schools they work with suggest that when a test, such as the Wide Range Achievement Test (WRAT), that stresses word recognition is used, the advantage is maintained even into the upper elementary levels.

To interpret this pattern it is necessary to know that the Oregon and other structured Follow Through models use direct instruction approaches to reading and their programs are code-oriented rather than language-oriented. Furthermore, these programs tend to include careful and individualized record keeping, and a focus on mastery of identifiable and measureable "components" of reading competence. The

child-centered or less structured Follow Through models tend to use language-oriented instructional strategies. There is considerable variety with respect to specific programs and instructional styles, but there is--in keeping with the child-centered philosophy that governs most of these programs--substantial emphasis on embedding reading in naturally functioning language settings and relatively little emphasis on structured, direct instruction. The range of activities that might be considered "reading" or "reading-related" in these programs is very wide; by contrast, only actual reading and writing would be so counted in the structured programs. Thus, children in structured programs probably spend more time actually engaged with written material.

Why would the advantage for the structured programs be strongest at the lowest grade levels? It could be because the program had been in use longer at those levels, and both the materials and their implementation were more refined. However, the difference might also reflect a gradual shift in characteristics of the reading tests over grade levels. Although texts must be read and questions answered at all levels, the complexity of the texts and the inferential load of the questions becomes progressively greater in higher grades. Children who were very good (for their age and grade) at word recognition could shine on the lower grade tests, since the linguistic complexity is low. At higher grades, more sophisticated language competence is required to do well--although the ability to recognize words is still needed. Thus, the dropoff in advantage for the structured Follow Through models at higher grade levels probably reflects the structured programs' relative strengths. They are particularly good at teaching word recognition, but not especially good at teaching comprehension. The continued high

performance of Oregon's children on the WRAT lends strength to this interpretation. Note, however, that the structured, code-oriented programs are not worse at teaching comprehension than the child-centered, language-oriented models.

(2) Chall's "Great Debate" book. The Follow Through findings, based on national samples and a common set of measurements for various programs, mirror an older finding based on a review of research literature on reading instruction conducted up to about 1965. Jeanne Chall's book, Learning to Read: The Great Debate, published in 1967, reviewed hundreds of studies comparing code, basal, and language experience methods. She concluded the following:

> Early stress on code learning, these studies indicate, not only produces better word recognition and spelling, but also makes it easier for the child eventually to read with understanding--at least up to the beginning of the fourth grade, after which point there is practically no evidence . . . . The experimental research provides no evidence that either a code or a meaning emphasis fosters greater love of reading or is more interesting to children . . . . There is some experimental evidence that children of below-average and average intelligence and children of lower socioeconomic background do better with an early code emphasis. Brighter children and those from middle and high socioeconomic backgrounds also gain from such an approach, but probably not as much. Intelligence, help at home, and greater facility with language probably allow these children to discover much of the code on their own, even if they follow a meaning program in school. (Chall, 1967, pp. 83-84)

Chall mentions that code emphases foster reading with understanding, but her evidence is virtually entirely for the primary grades. We essentially do not know, on the basis of the older literature, whether the early gain with code-oriented programs is maintained later. Chall herself speculated that whether the advantage would be maintained would depend on whether reading in the higher grades contained enough stress

on language and vocabulary growth and provided sufficiently challenging materials for reading. She apparently believed, although she did not directly state it at that time, that reading programs needed to shift from a code to a language emphasis after a certain level of code competence had been reached.

(3) Guthrie's study of reading problems. Guthrie and his colleagues (Guthrie, Samuels, Martuza, Seifert, Tyler, & Edwall, 1976) have reviewed research on the nature and locus of reading problems. They report comparisons of good and poor readers, as measured by a standardized comprehension test, that show (a) no difference in the grammatical or semantic acceptability of words substituted in the course of "misreading" a text; but (b) a greater tendency on the part of good readers to make errors based on graphic similarity. These findings are contrary to what proponents of language approaches to reading often predict, namely that emphasis on learning the code will produce a tendency to attend too much to the spelling and not enough to the meaning of words and thus interfere with comprehension. Guthrie's summary also shows that in the intermediate grades, poor readers tend to be about as far "behind" in word knowledge as in comprehension, again contrary to what language proponents predict. Thus, poor comprehenders are both poor decoders (that is, they make more errors) and slower decoders (even when they do decode correctly). They are also weaker in using semantic and syntactic cues of language (for example, they are less bothered by syntactic variations) both when reading and when listening. The general pattern seems to be one in which good decoding skills are quite clearly associated with good comprehension, and in which syntactic and semantic difficulties are associated with oral as

well as written language. This evidence, although correlational, seems to support those who view reading as translation to speech, and thus to suggest that code-oriented early instruction is likely to be the most successful in overcoming difficulties in learning to read.

Guthrie's group also performed two reanalyses of reading study data to determine whether instructional practices made a difference along the lines that this summary would suggest. The first was a reanalysis of the Bond and Dykstra (1967) first grade studies. Using a word reading subtest as a measure of knowledge of the code, this reanalysis showed a skills-oriented method (either linguistics or phonics) to be superior to a language-oriented method. The addition of a phonics program to a basal reading program also increased the basal's performance. On a paragraph meaning test, no clear difference between skill-based and language-based approaches could be detected. The authors concluded that comprehension is not a problem in first grade, and that it is therefore not surprising that instruction oriented primarily toward language comprehension has no strong effect. Meanwhile, direct instruction in the code seems to have positive effects on the aspect of reading that does need instruction at this stage.

The second reanalysis was done on the Educational Testing Service study of compensatory reading programs. Descriptions of the programs were condensed so that distinctions could be made between high and low instructional time, and between high and low skill emphasis. In addition, sex and three levels of SES were distinguished. Analyses of co-variance (controlling for fall scores) on various dependent variables were then run. Clear patterns with respect to instructional emphasis

are difficult to detect; however, more instructional time, especially for low SES and compensatory instructional groups, at both second and sixth grade levels, was found to be a clear benefit.

(4) The California Teacher Study. The import of time and its relation to type of instructional program can perhaps best be understood by considering the work of Berliner and others connected with the California Teacher Study (Berliner & Rosenshine, 1977; Rosenshine, 1976; Fisher, Filby, & Marliave, Note 1). According to these studies, and literature reviews connected with them, increased time and direct teaching produce the strongest learning results. Most observable "direct teaching" tends to be focussed on code aspects of reading. This may be partly because observers can easily agree on when "reading instruction" is taking place in the case of word recognition but are less certain what constitutes "instruction" in comprehension. Whether a result of observational methodology or a real effect, this finding confirms a frequently noted correlation between a code orientation in reading and direct instructional strategies. The correlation is evident in our conference papers, too (e.g., Bateman or Wallach & Wallach as against Goodman & Goodman), although there are some exceptions (e.g., Chomsky on a child-centered approach to early appreciation of the code). The correlation raises some questions for us: Is the apparent effectiveness of code approaches to teaching due to their direct instruction characteristics or to the content of what is taught? If the former, might a language-oriented program using direct instruction be equally or more effective? I will return to these questions as I address the question of what new instructional approaches warrant development and trial in the schools.

A Recommendation for Current Practice

I have distinguished, on the basis of our conferences and related literature, between two broadly-defined approaches to reading instruction: a code orientation and a language orientation. The review of field research in reading has suggested an advantage for code-oriented teaching roughly through the primary school years, the period during which our tests demand relatively unsophisticated language processing and give a clear edge to those who can recognize printed words accurately and quickly. This advantage is especially marked for children in compensatory programs. After the primary grades, there is no clear evidence supporting either code or language approaches to instruction. What does this suggest in the way of reading policy for compensatory education?

First, as a matter of routine practice, we need to include systematic, code-oriented instruction in the primary grades, no matter what else is also done. This is the only place in which we have any clear evidence for any particular practice. We cannot afford to ignore that evidence or the several instructional programs already in existence that do a good job of teaching the code. The charge, made by some who espouse language-oriented approaches and who view reading as an autonomous communication system, that too early or too much emphasis on the code depresses comprehension, finds no support in the empirical data. On the other hand, neither is there support for the claim of code proponents, that once the code is well learned other reading problems will disappear. Thus, there is no evidence that code emphasis programs alone will "solve" the reading problem.

What appears to be needed is systematic code teaching together with attention to language processing (i.e., comprehension) aspects of reading. But to say this is hardly to have completed a prescription for compensatory reading instruction. Virtually every reading program today claims to be providing just such a combination--yet we lack many smashing successes. Where does the difficulty lie?

It lies in part in a fundamental competition between code and language demands in early reading. Learning the code requires a controlled vocabulary--but language processing needs a rich language with which to work. This conflict cannot be wished away. Beck and Block (conference paper), in their comparative program analysis, pointed out how an "add-on" phonics program might lose its power when the spelling patterns taught are not given extensive practice in the reading materials that immediately follow. And no one has yet demonstrated empirically, with a compensatory education population, a successful way of teaching the code entirely on the basis of student-generated stories or words drawn from students' natural environments. The strongest claims for success along these lines come from certain proponents of "alternative education." Despite the absence of formal evidence, I have seen enough of these programs to believe that many students who would resist reading in conventional programs become good readers in them. But in most successful cases there is some largely "unsung" systematic code teaching, at least for a while, for most students. (For a systematic "alternative teaching" approach, complete with a diagnostic system and rather clear instructional plans, see Kohl's (1973) Reading, How To.)

The problem facing those who would design reading instruction for compensatory education, then, lies in great part in finding a balance of emphasis and timing between code and language aspects of reading. At the same time, substantial attention to how to address the language processing aspect of reading is needed. We have a number of good code-oriented programs available, but we have no strong success to report for a language-oriented program. This does not argue for teaching the code and letting language take care of itself. It argues, rather, for using what we have in the way of successful code teaching approaches and meanwhile focussing intensively on developing language teaching approaches that are as effective in their own domain. In the next section, I will consider some of the possibilities for language instruction and for combining code and language teaching.

Toward Solving the Rest of the Reading Problem: New Approaches That Should Be Tried

In this section I consider two issues: (a) how to teach language aspects of reading, and (b) how to combine language and code teaching.

Teaching Language Processes

Oral vs. written. A first question in considering how to teach langauge processing skills is whether it will be most effective to teach them in an oral mode or in a written mode. A not infrequently made proposal, on the part of those who favor a strong code orientation for early reading, is to focus beginning reading instruction largely or exclusively on the code, while providing separate instruction in oral

language comprehension. This approach assumes that those who do not comprehend what they read, even though they know the code, are deficient in general language processing skills, and further that reading comprehension is not a significantly different process from listening comprehension. It adopts, in other words, a "translation" definition of reading. A proposal of this kind has been made most explicitly by Sticht, but no serious empirical test has been made. Sticht himself, in his conference paper, describes a program of reading instruction in which considerable oral work takes place; but the written and oral activities are not clearly separated. A systematic effort to test Sticht's model ought to be made.

An important aspect of such a test should be attention to the possibility that separate instruction in oral comprehension may be effective in improving reading for certain kinds of materials or up to a certain level of complexity, but that beyond that point the oral approach may become cumbersome or even totally ineffective. The existence of such a point would be strongly predicted by anyone espousing the notion of reading as an autonomous communication system. Arguments supporting this position can be made on the basis of skilled readers' ability to process written material far faster than people can speak, and from evidence that there is, in skilled readers reading complex materials, a fair amount of "checking back." These behaviors suggest different processes for reading than listening, at least in part. In addition, analyses by Olson (1977) and others, of differences in the structure of written texts and oral communications suggest that written messages may be different enough in structure to require different processes than speech messages. If different processes are

involved, then instruction in comprehending written material would be called for; transfer from oral comprehension could not be depended upon. These considerations suggest that we also ought to develop and test strategies for teaching written language processing skills.

Direct vs. informal teaching. This brings us to our second question, what role direct instruction should play in teaching language skills. As already mentioned, there appeared in our conferences a correlation of opinions: those who advocated a focus on the code tended to advocate direct instruction; those who advocated a language processing emphasis advocated looser, learner-directed instructional approaches. So widespread is this correlation of beliefs that we rarely question its appropriateness. Yet there is nothing inherent in a language processing emphasis that requires informal teaching styles. To break free of the current, rather unproductive, confrontation between language and code advocates, one of the things we will have to do is to mentally "uncouple" informal teaching and language orientation. It may be that only learner-directed, informal teaching styles can bring about the functional uses of reading that language-oriented people stress. But it may be the case that direct instruction will work as well or better. What we need to do, in the tradition of American pragmatism, is to "try it and see."

There are then, two approaches to instruction in language processes to be explored: informal and direct. Consider the informal or child-centered method first. It might appear that this approach has had its chance and failed. Our look at the evidence from field research suggests no outstanding reading successes among child-centered programs

or language experience methods, except for the quickest learners and high SES groups. These data provide no recommendation for informal teaching styles with children in compensatory programs. Yet I think it is the case that we have not yet seen a real trial of learner-centered methods. Such a trial would require using the best aspects of informal teaching systematically enough and in enough classrooms that we could find out both whether the approach was usable by a significant number of teachers and whether, when used, children learned to read well. The current state of informal education ideology and methodology precludes such a test. Programs and teaching strategies are described in the loosest terms, relatively few opportunities for extended apprenticeships exist, and teachers are thus forced to invent for themselves a good deal of what they do. Not all teachers are good inventors; few have enough years on the job to permit them to grope toward success. A first requirement then is that proponents of informal language teaching approaches make their methods more accessible by specification, systematic training and the like.

A serious test of the power of an informal, language-oriented approach to reading will also require sustaining the program over a relatively long period, perhaps several years. This may be difficult, especially in communities that have become used to watching test score data as indicators of the success of their schools, since the growth in language competence brought about by informal approaches may not be reflected in scores on tests now in use. Trial of informal approaches, therefore, may require use of achievement tests that are more sensitive to growth in langage competence aspects of reading than our current ones appear to be.

To reiterate, I am suggesting that child-centered, language-experience approaches to reading have not yet had a real trial in this country. To have such a trial, we would need both sustained commitment to it and attempts by those who believe in the power of these teaching approaches to develop more explicit ways of helping teachers implement them.

The alternative approach is to develop systematic, direct instruction approaches to teaching comprehension and language-skill aspects of reading. Once we disengage the language processing orientation from informal teaching methods, this becomes a prospect that can at least be considered. Such direct instruction in comprehension was the aim of the early basal reading systems. But the basal reading systems we inherited from the 1930's did not meet their originators' aspirations. Today's series reflect the successive waves of disenchantment with the basals in the variety of "add-on" activities that they incorporate--phonics units, language experience activities, and so on. Thus the possibility of direct instruction in comprehension apparently needs rethinking from theory forward. Proposals for developing direct instruction approaches to teaching comprehension and writing deserve serious consideration at this time, as do proposals for expanding the knowledge base that might guide this development along profitable new lines.

Combining Language and Code Teaching

I have stated here that both code and language teaching will be required in successful reading instruction. How are they to be combined? The basic choice is whether to teach code and language simultaneously or successively. That is, both code and language aspects of reading can be the focus of instruction from the outset, or one can be emphasized first and then the other.

Successive teaching. Successive strategies have been the most popular in the past, and still dominate most thinking about teaching reading. Which should come first, in a given theorist's or practitioner's opinion, is very much a function of that individual's preferred definition of reading. Translation proponents--even when they recognize the need for some instruction and practice in language aspects of reading--want to emphasize the code at the outset, and for as long as it takes for fluency to develop. Autonomous language system proponents want to begin with a meaning emphasis, and let the code come later--if instruction in it is needed at all. Empirical evidence appears to support the code-first position. Initial emphasis on the code in a direct instruction program produces initial advantages and no long-term disadvantages. Language-first emphasis, at least in the versions tried up to now, has not shown a clear advantage at either stage. Thus, if a successive timing strategy is to be chosen, the current evidence argues for focussing first on the code. This sequence is in agreement with the stage theory of reading development outlined by Chall (conference paper), in which the first two stages of independent reading are concerned largely with learning the code and developing fluency and

confidence in word recognition. (These stages follow a period of developing readiness, which includes attention to the function and meaning aspects of written language.) A code-first sequence also agrees with Anderson and Adams' recent (in press) position paper (prepared for the Center for the Study of Reading) on cognitive processes in early reading. Anderson and Adams argue that word recognition, word meaning, grammatical interpretation, and interpretation of logical interrelations among parts of the text are all active at all stages of reading, but that at the beginning of reading the new and most difficult task, and therefore the preoccupying one, is word recognition. Focussing instruction on the code, then, is a way of helping children at the beginning stages with their most difficult task.

Simultaneous teaching. Is simultaneous attention to code and language processing aspects of reading possible? Might it alter the course of reading acquisition? We don't know the answer to either question since a carefully documented simultaneous teaching strategy does not exist. Nevertheless, we can consider some possibilities and assess the likelihood of their being successful. I have already discussed the inherent difficulty of combining language and code emphases that derives from the code teacher's need for a carefully controlled vocabulary. But most code programs develop large recognition vocabularies relatively quickly and the "conflict" might not have to last more than a few months. Elsa Bartlett's conference paper suggests that one code-oriented program, Open Court, may be an example of a successful early introduction of a rich variety of written materials. If materials of this kind can be used as the basis for direct instruction in language processing, then a very minimal delay between

code and language foci can be envisaged. Bartlett's analysis of the program does not suggest how systematically or effectively the materials are used, but this is a case worth investigating, particularly since the program involved is coming into increasingly wider use with hard-to-teach populations. According to Bartlett's analysis, Open Court is able to introduce richer than usual reading selections in part because it introduces elements of the code quickly and relies on children to be able to handle variability in print-to-sound translation. Many conference participants believe that a slower, more deliberate pace is needed for the hard-to-teach children that constitute a compensatory education population. If they are right, then a long delay in language instruction might be required for these children. But recent reports (Bateman, Note 2) suggest that Open Court is being used successfully with many hard-to-teach groups (compensatory, learning disabled, etc.). Certainly this trend should be monitored closely over the next few years.

Another alternative for simultaneous language and code emphases is to use informal, language experience methods for language development simultaneously with a structured, code-oriented program. Strict code advocates are likely to claim that this will confuse children, who will encounter irregularly spelled words in the course of their informal work, and be encouraged to guess and otherwise depend on cues other than orthography in their early reading attempts. We have no firm data on this, but informal observation suggests that most children are quite good at recognizing the different demands of different situations, and would attend to the code during the formal instruction. A greater impediment, in my opinion, lies in the difficulty of school and

classroom organization that the simultaneous use of direct and informal teaching seems to imply. Observations of classrooms in which a combination of direct and informal teaching is being tried suggest that one or the other aspect tends to be ignored, or at least given short shrift. Teachers complain about competing demands on their time, although they usually recognize that the children have plenty of time in the school day for both. My personal observation is that individual teachers, by temperament or training, seem to be good at one or the other kind of instruction and attendant classroom management, but rarely both. This leads me to propose, as an instructional approach worth development and trial in the schools, a reorganization of the school program so that informal instruction and direct instruction both take place, but in clearly separated times and places, and under the direction of different teachers. Various models for this separation are possible. For example, the school day might be divided into two halves--one for formal instruction, the other for informal. Or the "home" classroom could be organized along informal lines, with children assigned on a rotating basis to a skill center staffed by teachers who are proficient at direct teaching of the code and of those language skills that seem to profit most from direct instruction. Whatever the particular arrangement, it is clear that seriously combining formal and informal teaching may require extensive reorganization of staff, time, and space allocations within schools. The effort may have some surprising side benefits, however, since it may solve problems of homogeneous versus heterogeneous grouping, "mainstreaming," cost-effective use of special reading teachers, and other problems that are difficult to deal with in the context of self-contained classroom

organizations.

Summary

On the basis of the papers exchanged at this project's conferences, it is possible to identify two main strands of theory about the nature of reading. These are (1) reading as translation, a view that holds reading to be essentially the translation of printed symbols into an approximation of oral language, so that already developed capabilities for understanding and using speech can be applied to written language; and (2) reading as an autonomous language process, a view that understanding the written word is in certain important ways different from and separate from understanding spoken language. The two views of reading lead to different kinds of prescriptions for early reading instruction. Reading as translation suggests predominant attention to helping children master the alphabetic code. Reading as autonomous language suggests that reading instruction must focus quite directly on the functional and meaningful use of written language right from the outset of instruction. Both basal "look-say" methods and informal "language experience" methods of teaching are attempts to meet this requirement in instruction.

Evidence clearly favoring one instructional approach over another in field settings is difficult to find. Nevertheless, a repeating pattern of findings concerning both what is taught and how it is taught can be detected if we examine several decades of applied research. This pattern can be summarized roughly as follows: When skill in word recognition is the outcome being studied, code-oriented programs tend to

show up better than language-oriented programs. This is especially true for low socioeconomic groups and for low achievers in general. However, when comprehension beyond the very simplest levels is the criterion, there is no clear advantage for either code- or language-oriented programs. Concerning instructional style, direct instruction, teacher controlled use of time, and well structured curricula have a clear edge, again especially for low achieving or low SES groups. These conclusions are drawn on the basis of evidence from (a) several cohorts of Follow Through children; (b) Jeanne Chall's book, Learning to Read: The Great Debate, which reviewed hundreds of studies conducted up to about 1964; (c) research reviews conducted by Guthrie and his colleagues for the National Institute of Education's compensatory education studies; (d) reanalyses of data from the Bond and Dykstra first grade studies and the Educational Testing Service study of compensatory reading programs; and (e) The California Teacher Study.

The findings of the Theory and Practice in Beginning Reading Instruction Project suggest several lines of action for national reading policy and for further development and study of reading instruction. First, as a matter of routine practice, we need to include systematic code-oriented instruction in the primary grades, no matter what else is also done. This the only place in which we have any clear evidence for any particular practice. We cannot afford to ignore that evidence or the several instructional programs already available or nearly ready for use that do a good job of teaching the code. There is no empirical evidence that too early or too much emphasis on the code depresses later comprehension. On the other hand, there is no evidence that code-emphasis programs alone will "solve" the reading problem. Such

programs succeed well in teaching word recognition skills. They show no advantage, however, once comprehension becomes the main criterion of success (starting at about third or fourth grade). For this reason, we need to work on developing programs that do a good job of teaching the meaning and functional aspects of reading.

Two possibilities for such programs need to be pursued. The language experience approach, which builds upon children's own writing and dictation, needs to be specified precisely enough by its proponents so that it can be given a serious try in schools. Despite widespread interest in learner-centered, language experience approaches, these methods have not been adequately described. Much is left to teacher invention, but not all teachers are well prepared for this task. A real trial of the language experience approach will require a precise specification of the approach, its sustained use over several years, and quite probably tests that are more sensitive to students' ability to use written langage than our current ones appear to be. The second possibility for language-oriented reading instruction that needs to be investigated is direct instruction. For a decade or more language-oriented approaches and informal, learner-centered methods of teaching have tended to be linked in educators' minds. This is not a necessary relationship, however. Just as we need to further develop and test language experience approaches, we also need to explore direct instruction in comprehension. Such instruction may begin with oral comprehension skills, as is advocated by several of the experts who participated in our conferences, or it may work directly on the comprehension of written material, as others advocate. In either case, success will probably depend upon the emergence--now more than a vague

promise, given new psychological research on language processing--of a detailed theory of the mental activities that take place during language comprehension. Thus, investment in "basic" research on how people understand written language can be expected to yield practical results for reading instruction within some reasonable, if not immediate, period of time.

Finally, attention will have to be paid to how to combine code and language aspects of instruction. A successive strategy, in which code is emphasized first and language follows, or vice versa, is the most common today. The practical successes of code programs at the earliest grade levels, especially with compensatory education children, suggest that code should precede language if a successive strategy is used. However, simultaneous teaching of code and language aspects of reading may be even more effective, and several possibilities for such simultaneous teaching are suggested.

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